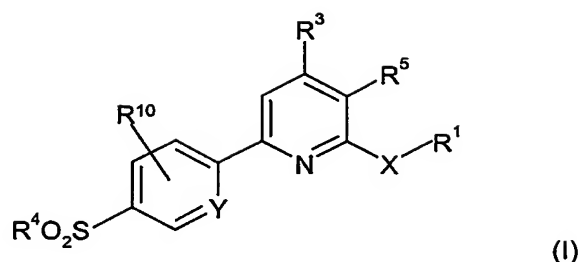


CLAIMS

1. A compound of formula (I)



- 5 or a pharmaceutically acceptable salt thereof in which:

X is selected from the group consisting of oxygen or NR<sup>2</sup>;

Y is selected from the group consisting of CH or nitrogen;

- 10 R<sup>1</sup> is selected from the group consisting of H, C<sub>1-6</sub>alkyl, C<sub>1-2</sub>alkyl substituted by one to five fluorine atoms, C<sub>1-3</sub>alkylOC<sub>1-3</sub>alkyl, C<sub>3-6</sub>alkenyl, C<sub>3-6</sub>alkynyl, C<sub>3-10</sub>cycloalkylC<sub>0-6</sub>alkyl, C<sub>4-7</sub>cycloalkyl substituted by C<sub>1-3</sub>alkyl or C<sub>1-3</sub>alkoxy, C<sub>4-12</sub>bridged cycloalkyl, A(CR<sup>6</sup>R<sup>7</sup>)<sub>n</sub> and B(CR<sup>6</sup>R<sup>7</sup>)<sub>n</sub>;

R<sup>2</sup> is selected from the group consisting of H and C<sub>1-6</sub>alkyl; or

- 15 R<sup>1</sup> and R<sup>2</sup>, together with the nitrogen atom to which they are attached form a 4-8 membered saturated heterocyclic ring such as a pyrrolidine, morpholine or piperidine ring, or a 5-membered heteroaryl ring which is unsubstituted or substituted by one R<sup>8</sup>;

R<sup>3</sup> is selected from the group consisting of C<sub>1-5</sub>alkyl and C<sub>1-2</sub>alkyl substituted by one to five fluorine atoms;

R<sup>4</sup> is selected from the group consisting of C<sub>1-6</sub>alkyl, NH<sub>2</sub> and R<sup>9</sup>CONH;

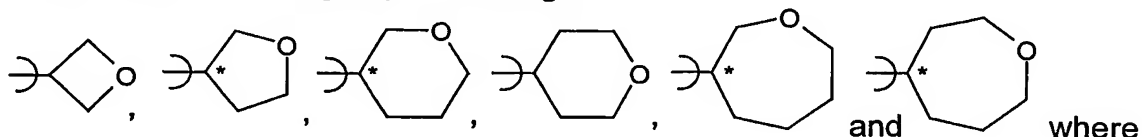
- 20 R<sup>5</sup> is selected from the group consisting of hydrogen, C<sub>1-3</sub>alkyl, C<sub>1-2</sub>alkyl substituted by one to five fluorine atoms, C<sub>1-3</sub>alkylO<sub>2</sub>C, halogen, cyano, (C<sub>1-3</sub>alkyl)<sub>2</sub>NCO, C<sub>1-3</sub>alkylS and C<sub>1-3</sub>alkylO<sub>2</sub>S;

R<sup>6</sup> and R<sup>7</sup> are independently selected from H or C<sub>1-6</sub>alkyl;

- 25 A is an unsubstituted 5- or 6-membered heteroaryl or an unsubstituted 6-membered aryl, or a 5- or 6-membered heteroaryl or a 6-membered aryl substituted by one or more R<sup>8</sup>;

$R^8$  is selected from the group consisting of halogen,  $C_{1-6}$ alkyl,  $C_{1-6}$ alkyl substituted by one more fluorine atoms,  $C_{1-6}$ alkoxy,  $C_{1-6}$ alkoxy substituted by one or more F,  $NH_2SO_2$  and  $C_{1-6}alkylSO_2$ ;

B is selected from the group consisting of



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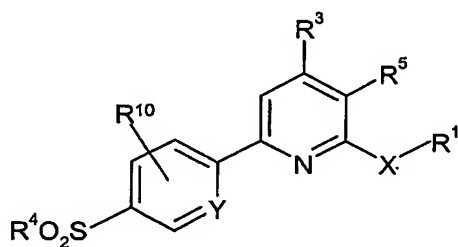
) defines the point of attachment of the ring;

10

$R^9$  is selected from the group consisting of H,  $C_{1-6}$ alkyl,  $C_{1-6}$ alkoxy,  $C_{1-6}alkylOC_{1-6}alkyl$ , phenyl,  $HO_2CC_{1-6}alkyl$ ,  $C_{1-6}alkylOCOC_{1-6}alkyl$ ,  $C_{1-6}alkylOCO$ ,  $H_2NC_{1-6}alkyl$ ,  $C_{1-6}alkylOCONHC_{1-6}alkyl$  and  $C_{1-6}alkylCONHC_{1-6}alkyl$ ;

$R^{10}$  is selected from the group consisting of H and halogen; and  
n is 0 to 4.

2. A compound as claimed in claim 1 of formula (IA)



(IA)

15

or a pharmaceutically acceptable salt thereof in which:

X is selected from the group consisting of oxygen or  $NR^2$ ;

Y is selected from the group consisting of CH or nitrogen;

20

$R^1$  is selected from the group consisting of H,  $C_{1-6}$ alkyl,  $C_{1-2}$ alkyl substituted by one to five fluorine atoms,  $C_{1-3}alkylOC_{1-3}alkyl$ ,  $C_{3-6}alkenyl$ ,  $C_{3-6}alkynyl$ ,  $C_{3-10}cycloalkylC_{0-6}alkyl$ ,  $C_{4-12}$ bridged cycloalkyl,  $A(CR^6R^7)_n$  and  $B(CR^6R^7)_n$ ;

$R^2$  is selected from the group consisting of H and  $C_{1-6}$ alkyl; or

$R^1$  and  $R^2$ , together with the nitrogen atom to which they are attached form a 4-8 membered saturated heterocyclic ring such as a pyrrolidine, morpholine or piperidine ring;

25

$R^3$  is selected from the group consisting of  $C_{1-5}$ alkyl and  $C_{1-2}$ alkyl substituted by one to five fluorine atoms;

$R^4$  is selected from the group consisting of  $C_{1-6}$ alkyl,  $NH_2$  and  $R^9CONH$ ;

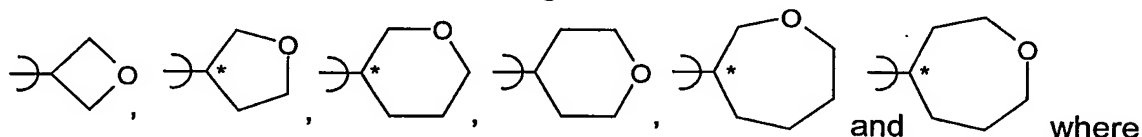
$R^5$  is selected from the group consisting of hydrogen,  $C_{1-3}$ alkyl,  $C_{1-2}$ alkyl substituted by one to five fluorine atoms, halogen, cyano,  $(C_{1-3}alkyl)_2NCO$ ,  $C_{1-3}alkylS$  and  $C_{1-3}alkylO_2S$ ;

$R^6$  and  $R^7$  are independently selected from H or  $C_{1-6}$ alkyl;

A is an unsubstituted 5- or 6-membered heteroaryl or an unsubstituted 6-membered aryl, or a 5- or 6-membered heteroaryl or a 6-membered aryl substituted by one or more  $R^8$ ;

$R^8$  is selected from the group consisting of halogen,  $C_{1-6}$ alkyl,  $C_{1-6}$ alkyl substituted by one more fluorine atoms,  $C_{1-6}$ alkoxy,  $C_{1-6}$ alkoxy substituted by one or more F,  $NH_2SO_2$  and  $C_{1-6}alkylSO_2$ ;

B is selected from the group consisting of

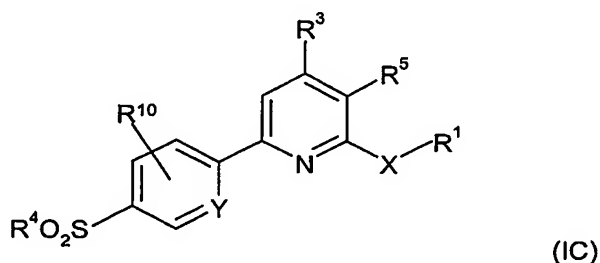


) defines the point of attachment of the ring;

$R^9$  is selected from the group consisting of H,  $C_{1-6}$ alkyl,  $C_{1-6}$ alkoxy,  $C_{1-6}alkylOC_{1-6}alkyl$ , phenyl,  $HO_2CC_{1-6}alkyl$ ,  $C_{1-6}alkylOCOC_{1-6}alkyl$ ,  $C_{1-6}alkylOCO$ ,  $H_2NC_{1-6}alkyl$ ,  $C_{1-6}alkylOCONHC_{1-6}alkyl$  and  $C_{1-6}alkylCONHC_{1-6}alkyl$ ;

$R^{10}$  is selected from the group consisting of H and halogen; and  
n is 0 to 4.

3. A compound as claimed in claim 1 of formula (IC)



(IC)

or a pharmaceutically acceptable salt thereof in which:

X is selected from the group consisting of oxygen or  $\text{NR}^2$ ;

Y is selected from the group consisting of CH or nitrogen;

$\text{R}^1$  is selected from the group consisting of H,  $\text{C}_{1-6}$ alkyl,  $\text{C}_{1-2}$ alkyl substituted by one to five fluorine atoms,  $\text{C}_{1-3}$ alkyl $\text{OC}_{1-3}$ alkyl,  $\text{C}_{3-6}$ alkenyl,  $\text{C}_{3-6}$ alkynyl,  $\text{C}_{3-10}$ cycloalkyl $\text{C}_{0-6}$ alkyl,  $\text{C}_{4-7}$ cycloalkyl substituted by  $\text{C}_{1-3}$ alkyl or  $\text{C}_{1-3}$ alkoxy,  $\text{C}_{4-12}$ bridged cycloalkyl,  $\text{A}(\text{CR}^6\text{R}^7)_n$  and  $\text{B}(\text{CR}^6\text{R}^7)_n$ ;

$\text{R}^2$  is selected from the group consisting of H and  $\text{C}_{1-6}$ alkyl; or

$\text{R}^1$  and  $\text{R}^2$ , together with the nitrogen atom to which they are attached form a 4-8 membered saturated heterocyclic ring such as a pyrrolidine, morpholine or piperidine ring, or a 5-membered heteroaryl ring which is unsubstituted or substituted by one  $\text{R}^8$ ;

$\text{R}^3$  is selected from the group consisting of  $\text{C}_{1-5}$ alkyl and  $\text{C}_{1-2}$ alkyl substituted by one to five fluorine atoms;

$\text{R}^4$  is selected from the group consisting of  $\text{C}_{1-6}$ alkyl,  $\text{NH}_2$  and  $\text{R}^9\text{CONH}$ ;

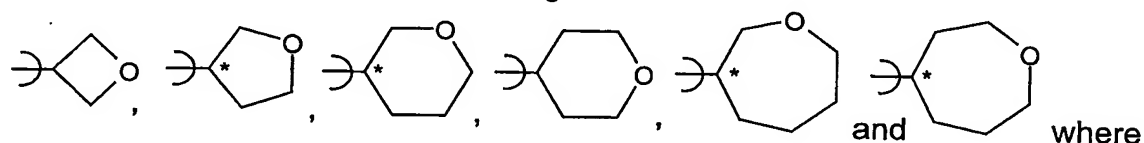
$\text{R}^5$  is selected from the group consisting of hydrogen,  $\text{C}_{1-3}$ alkyl,  $\text{C}_{1-2}$ alkyl substituted by one to five fluorine atoms,  $\text{C}_{1-3}$ alkyl $\text{O}_2\text{C}$ , halogen, cyano,  $(\text{C}_{1-3}\text{alkyl})_2\text{NCO}$ ,  $\text{C}_{1-3}$ alkylS and  $\text{C}_{1-3}$ alkyl $\text{O}_2\text{S}$ ;

$\text{R}^6$  and  $\text{R}^7$  are independently selected from H or  $\text{C}_{1-6}$ alkyl;

A is an unsubstituted 5- or 6-membered heteroaryl or an unsubstituted 6-membered aryl, or a 5- or 6-membered heteroaryl or a 6-membered aryl substituted by one or more  $\text{R}^8$ ;

$\text{R}^8$  is selected from the group consisting of halogen,  $\text{C}_{1-6}$ alkyl,  $\text{C}_{1-6}$ alkyl substituted by one more fluorine atoms,  $\text{C}_{1-6}$ alkoxy,  $\text{C}_{1-6}$ alkoxy substituted by one or more F,  $\text{NH}_2\text{SO}_2$  and  $\text{C}_{1-6}$ alkyl $\text{SO}_2$ ;

B is selected from the group consisting of



) defines the point of attachment of the ring;

$\text{R}^9$  is selected from the group consisting of H,  $\text{C}_{1-6}$ alkyl,  $\text{C}_{1-6}$ alkoxy,  $\text{C}_{1-6}$ alkyl $\text{OC}_{1-6}$ alkyl, phenyl,  $\text{HO}_2\text{CC}_{1-6}$ alkyl,  $\text{C}_{1-6}$ alkyl $\text{OCOC}_{1-6}$ alkyl,  $\text{C}_{1-6}$ alkyl $\text{OCO}$ ,  $\text{H}_2\text{NC}_{1-6}$ alkyl,  $\text{C}_{1-6}$ alkyl $\text{OCONHC}_{1-6}$ alkyl and  $\text{C}_{1-6}$ alkyl $\text{CONHC}_{1-6}$ alkyl;

$\text{R}^{10}$  is selected from the group consisting of H and halogen; and  
n is 1 to 4.

4. A compound as claimed in claim 1 wherein:

X is oxygen;

Y is CH;

R<sup>1</sup> is A(CR<sup>6</sup>R<sup>7</sup>)<sub>n</sub>;

R<sup>3</sup> is selected from the group consisting of C<sub>1-5</sub>alkyl and C<sub>1-2</sub>alkyl substituted by one to five fluorine atoms;

R<sup>4</sup> is C<sub>1-6</sub>alkyl;

R<sup>5</sup> is selected from the group consisting of hydrogen, C<sub>1-3</sub>alkyl, C<sub>1-2</sub>alkyl substituted by one to five fluorine atoms, C<sub>1-3</sub>alkylO<sub>2</sub>C, halogen, and C<sub>1-3</sub>alkylS;

A is an unsubstituted 5- or 6-membered heteroaryl or an unsubstituted 6-membered aryl, or a 5- or 6-membered heteroaryl or a 6-membered aryl substituted by one or more R<sup>8</sup>;

R<sup>8</sup> is selected from the group consisting of halogen, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyl substituted by one more fluorine atoms, C<sub>1-6</sub>alkoxy, and C<sub>1-6</sub>alkoxy substituted by one or more F;

R<sup>10</sup> is selected from the group consisting of H and halogen; and  
n is 0.

5. A compound of formula (I) as described in any of Examples 1 to 236.

6. A compound of formula (I) selected from the group consisting of:  
4-ethyl-6-[4-(methylsulfonyl)phenyl]-N-(tetrahydro-2H-pyran-4-ylmethyl)-2-pyridinamine; 4-methyl-N-[(1-methyl-1H-pyrazol-4-yl)methyl]-6-[4-(methylsulfonyl)phenyl]-2-pyridinamine;

N-[(1,5-dimethyl-1H-pyrazol-4-yl)methyl]-4-methyl-6-[4-(methylsulfonyl)phenyl]-2-pyridinamine;

N-[(1,3-dimethyl-1H-pyrazol-4-yl)methyl]-4-methyl-6-[4-(methylsulfonyl)phenyl]-2-pyridinamine;

4-(6-[(1,3-dimethyl-1H-pyrazol-4-yl)methyl]amino)-4-ethyl-2-pyridinyl)benzenesulfonamide;

N-[(1,3-dimethyl-1H-pyrazol-4-yl)methyl]-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;

N-[(1,5-dimethyl-1H-pyrazol-4-yl)methyl]-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;

- 4-{4-methyl-6-[(tetrahydro-2H-pyran-4-ylmethyl)amino]-2-pyridinyl}benzenesulfonamide;  
4-methyl-N-[(1-methyl-1H-pyrazol-3-yl)methyl]-6-[4-(methylsulfonyl)phenyl]-2-pyridinamine;  
5 N-(cyclohexylmethyl)-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;  
N-cyclohexyl-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;  
2-[4-(methylsulfonyl)phenyl]-6-[(2-pyridinylmethyl)oxy]-4-(trifluoromethyl)pyridine;  
10 4-methyl-N-[(3-methyl-4-isoxazolyl)methyl]-6-[4-(methylsulfonyl)phenyl]-2-pyridinamine;  
6-[4-(methylsulfonyl)phenyl]-N-(2-pyridinylmethyl)-4-(trifluoromethyl)-2-pyridinamine;  
15 N-cycloheptyl-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;  
N-(cis-4-methylcyclohexyl)-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;  
N-(1-ethylpropyl)-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;  
20 N-[(3-methyl-1,2,4-oxadiazol-5-yl)methyl]-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;  
N-[(5-methyl-1,2,4-oxadiazol-3-yl)methyl]-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;  
25 4-methyl-N-[(1-methyl-1H-pyrazol-5-yl)methyl]-6-[4-(methylsulfonyl)phenyl]-2-pyridinamine;  
N-(cyclopentylmethyl)-6-[4-(methylsulfonyl)phenyl]-4-(trifluoromethyl)-2-pyridinamine;  
N-[(1-ethyl-1H-1,2,4-triazol-5-yl)methyl]-4-methyl-6-[4-(methylsulfonyl)phenyl]-2-pyridinamine;  
30 4-ethyl-6-[4-(methylsulfonyl)phenyl]-2-[(2-pyridinylmethyl)amino]-3-pyridinecarbonitrile;  
4-ethyl-2-[[[(5-methyl-2-pyridinyl)methyl]amino]-6-[4-(methylsulfonyl)phenyl]-3-pyridinecarbonitrile;  
35 4-ethyl-2-[[[(6-methyl-3-pyridinyl)methyl]amino]-6-[4-(methylsulfonyl)phenyl]-3-pyridinecarbonitrile;

4-ethyl-2-[[[(1-methyl-1H-pyrazol-4-yl)methyl]amino]-6-[4-(methylsulfonyl)phenyl]-3-pyridinecarbonitrile;

4-ethyl-6-[4-(methylsulfonyl)phenyl]-2-[[[(4-methyl-1,3-thiazol-2-yl)methyl]amino]-3-pyridinecarbonitrile;

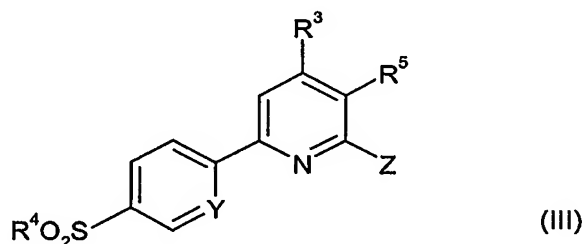
5 4-ethyl-6-[4-(methylsulfonyl)phenyl]-2-[(2-pyridinylmethyl)oxy]-3-pyridinecarbonitrile;

4-ethyl-N-[(1-ethyl-1H-1,2,4-triazol-5-yl)methyl]-6-[4-(methylsulfonyl)phenyl]-2-pyridinamine;

10 4-ethyl-2-[[[(6-methyl-3-pyridinyl)methyl]oxy]-6-[4-(methylsulfonyl)phenyl]-3-pyridinecarbonitrile; and

6-[4-(methylsulfonyl)phenyl]-N-[(1-methyl-1H-1,2,4-triazol-5-yl)methyl]-4-(trifluoromethyl)-2-pyridinamine.

7. A process for the preparation of compounds of formula (I) as defined in any of claims 1 to 6 which comprises reacting a compound  $R^1XH$  of formula (II),  
 15 or a protected derivative thereof, with a compound of formula (III)



20 where X is as defined and Z is halogen or a sulfonate, and thereafter and if necessary, interconverting a compound of formula (I) into another compound of formula (I), and/or deprotecting a protected derivative of compound of formula (I).

8. A pharmaceutical composition comprising a compound of formula (I) as defined in any of claims 1 to 6 in admixture with one or more physiologically acceptable carriers or excipients.

- 25 9. A compound of formula (I) as defined in any of claims 1 to 6 for use in human or veterinary medicine.

10. A method of treating a human or animal subject suffering from a condition which is mediated by COX-2 which comprises administering to said subject

an effective amount of a compound of formula (I) as defined in any of claims 1 to 6.

- 5 11. A method of treating a human or animal subject suffering from an inflammatory disorder, which method comprises administering to said subject an effective amount of a compound of formula (I) as defined in any of claims 1 to 6.
12. The use of a compound of formula (I) as defined in any of claims 1 to 6 for the manufacture of a therapeutic agent for the treatment of a condition which is mediated by COX-2.
- 10 13. The use of a compound of formula (I) as defined in any of claims 1 to 6 for the manufacture of a therapeutic agent for the treatment of an inflammatory disorder.